Immunization Newsletter

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Intensive Health Activities Focused on Children in Haiti

In June, Haiti's Ministry of Public Health and Population successfully concluded its intensive health activities focused on children. A total of 3,045,529 Oral Polio Vaccine (OPV) doses were administered to children aged nine years or less and 2,938,863 Measles/Rubella (MR) vaccine doses were administered to children aged between nine months and nine years. Likewise, a total of 1,210,438 vitamin A capsules were administered to children aged between six months and six years as well as 1,352,789 albendazol tablets to children aged two to nine years.

In the search for homogenous coverage, more than 1,500 Rapid Monitoring activities were conducted, with a total of 68,715 persons responsible for children aged less than nine years interviewed. Also, institutional and community active case searches of suspected poliomyelitis, measles, rubella, and congenital rubella syndrome were conducted during this same period. A coverage survey, supported by the US Centers for Disease Control and Prevention (CDC) was being implemented in August 2012.

The intensive vaccination activities, which started in April 2012, made an important contribution to Haiti's immunization program, constituting the first steps to strengthen the routine vaccination activities. These results were possible thanks to the commitment and dedication of Haiti's health care workers, the leadership and dedication of the MoH and the technical teams implementing these activities. The next steps are the introduction of new vaccines, starting with the pentavalent (DTP-Hib-HepB) in September 2012, increasing coverage for all vaccines and strengthening epidemiological surveillance. In the mid-term, the country expects to have a solid and quality vaccination program that can serve as a gateway to access other primary health care services. ■

A child is vaccinated during Haiti's intensive health activities.

In This Issue

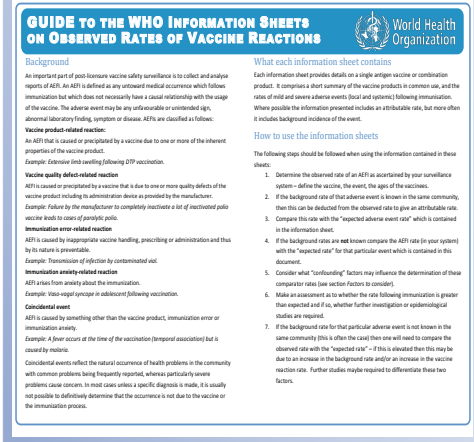
WHO Vaccine Reaction Rates Information Sheets

WHO's Immunization, Vaccines and Biologicals department has developed these sheets within its priority area supporting the introduction of vaccines in Member States. The information sheets provide details on reaction rates of selected vaccines – whether single antigen or combined in a single product.

The sheets are primarily designed for use by national public health officials and immunization program managers but may appeal to others interested in such information. Data from these sheets can be used for the evaluation of Events Supposedly Attributable to Vaccination or Immunization (ESAVI) reported during national immunization programs, but also for preparing communication materials about specific vaccines.

These information sheets include a short summary of the vaccine. They also comprise details of mild and severe adverse reactions (local and systemic) following immunization. Expected rates of vaccine reactions have been included if available in the published literature.

In close collaboration with PAHO's Comprehensive Family Immunization Project (FCH/IM), the sheets are also available in Spanish at: http://www.who.int/vaccine_safety/initiative/tools/vaccinfosheets/en/index.html ■



GUIDE TO THE WHO INFORMATION SHEETS ON OBSERVED RATES OF VACCINE REACTIONS

World Health Organization

Background

An important part of post-licensure vaccine safety surveillance is to collect and analyse reports of AEFI. An AEFI is defined as any untoward medical occurrence which follows immunization but which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavourable or unintended sign, abnormal laboratory finding, symptom or disease. AEFIs are classified as follows:

Vaccine product-related reaction:
An AEFI that is caused or precipitated by a vaccine due to one or more of the inherent properties of the vaccine product.
Example: Extensive limb swelling following DTP vaccination.

Vaccine quality defect-related reaction
AEFI is caused or precipitated by a vaccine that is due to one or more quality defects of the vaccine product including its administration device as provided by the manufacturer.
Example: Failure by the manufacturer to completely inactivate a lot of inactivated polio vaccine leads to cases of paralytic polio.

Immunization error-related reaction
AEFI is caused by inappropriate vaccine handling, prescribing or administration and thus by its nature is preventable.
Example: Transmission of infection by contaminated vial.

Immunization anxiety-related reaction
AEFI arises from anxiety about the immunization.
Example: Vaso-vagal syncope in adolescent following vaccination.

Coincidental event
AEFI is caused by something other than the vaccine product, immunization error or immunization anxiety.
Example: A fever occurs at the time of the vaccination (temporal association) but is caused by malaria.

Coincidental events reflect the natural occurrence of health problems in the community with common problems being frequently reported, whereas particularly severe problems cause concern. In most cases unless a specific diagnosis is made, it is usually not possible to definitively determine that the occurrence is not due to the vaccine or the immunization process.

What each information sheet contains

Each information sheet provides details on a single antigen vaccine or combination product. It comprises a short summary of the vaccine products in common use, and the rates of mild and severe adverse events (local and systemic) following immunization. Where possible the information presented includes an attributable rate, but more often it includes background incidence of the event.

How to use the information sheets

The following steps should be followed when using the information contained in these sheets:

1. Determine the observed rate of an AEFI as ascertained by your surveillance system – define the vaccine, the event, the ages of the vaccinees.
2. If the background rate of that adverse event is known in the same community, then this can be deducted from the observed rate to give an attributable rate.
3. Compare this rate with the "expected adverse event rate" which is contained in the information sheet.
4. If the background rates are **not** known compare the AEFI rate (in your system) with the "expected rate" for that particular event which is contained in this document.
5. Consider what "confounding" factors may influence the determination of these comparator rates (see section *Factors to consider*).
6. Make an assessment as to whether the rate following immunization is greater than expected and if so, whether further investigation or epidemiological studies are required.
7. If the background rate for that particular adverse event is not known in the same community (this is often the case) then one will need to compare the observed rate with the "expected rate" – if this is elevated then this may be due to an increase in the background rate and/or an increase in the vaccine reaction rate. Further studies maybe required to differentiate these two factors.

International Workshop on Cold Chain Operations in Nicaragua

From 9-12 July 2012, an international workshop on cold chain operations was held in Managua, Nicaragua. The main objective of the workshop was to train EPI managers and cold chain managers on cold chain operations. Other workshop objectives included providing knowledge on the use of new tools and technologies, presenting guidelines for effective management of cold chain operations and to draw on regional experiences to homologize the text in the cold chain module that the Pan American Health Organization (PAHO) is updating. The purpose of PAHO's Cold Chain Module is to help countries plan cold chain and supply chain operations for five to ten years from now, for both the introduction of new vaccines and supporting a growing population. The new Unit Five in the Cold Chain Module emphasizes management practices. A total of 30 participants from Belize, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama were in attendance, as well as 20 participants from the host country. Five staff members from PAHO, the EPI Manager from Honduras and the Cold Chain manager from Brazil served as facilitators. Each country delivered a presentation on the status of their cold chain and the challenges they were facing. Facilitators delivered presentations covering the main topics addressed in each of the five units of the PAHO cold chain module. Afterwards, participants were organized into five work groups. Each group reviewed each Module Unit and discussed the issues and provided suggestions for homologizing each one, including recommendations for improving the information. In addition, a question and answer panel session was organized after the review of each Module Unit. After reviewing each Unit, the participants were also asked to fill-out a questionnaire in order to obtain feedback. The results of the questionnaire indicated the following:

Participants of the International Workshop on Cold Chain Operations, Nicaragua, July 2012.

- The methodology used for conducting the workshop was adequate.
- The high technical level and quality of presentations facilitated an integrated approach between cold chain and supply chain operations.
- The workshop participants highlighted the importance of supply chain operations for improving the management of vaccine storage and distribution.
- The question and answer panel session was useful for clarifying issues.
- The small work groups were viewed as helpful and permitted the exchange of experiences.
- The participants were pleased with the opportunity to provide comments and revisions to the third edition of PAHO's Cold Chain Module.
- Many participants were satisfied to have the Module updated with information on:
  - » information systems for management
  - » managing human resources
  - » storage and transportation of syringes
  - » detailed explanations of supply chain operations
  - » specifications of cold rooms, refrigerators and freezers
- The World Health Organization (WHO) tools presented during the workshop provided new knowledge and approaches for strengthening cold chain and supply chain operations. More importantly, these tools were seen as useful for supporting the introduction of new vaccines.

The third edition of the PAHO Cold Chain Module is expected to be published later this year. ■

Workshop on Measles and Rubella Detection Using Real Time RT-PCR and Sequencing

From 27-31 August 2012, the workshop on measles and rubella detection using real time RT-PCR and sequencing was held at the Diagnostic and Epidemiological Reference Institute (InDRE) in Mexico City, Mexico. The purpose of the workshop was to strengthen the response capacity of the national measles/rubella laboratories in the Region of the Americas. The objectives of the workshop were to review the status of measles and rubella elimination in the Region and train participants in techniques for the detection of measles and rubella viruses using real time RT-PCR and sequencing.

The workshop featured presentations and technical discussions on several topics including a global and regional update on measles and rubella elimination; the regional measles and rubella laboratory network; molecular approaches for measles; molecular approaches for rubella; quality control (QC) for molecular tests: real time RT-PCR and sequencing; introduction to sequence analysis, Mega 5.0, video; and data reporting, demo of MeaNS, plans for RubeNS, demo of GenBank, and instructions for FTA panels. There were also lab practices that focused on measles genotyping RT-PCR; rubella genotyping RT-PCR; clean up PCR products, sequence reactions; measles real time RT-PCR; rubella real time RT-PCR; and introduction to sequence analysis.

Summary of the Workshop

During the opening session, Dr. Cuitláhuac Ruiz Matus, Mexico's Deputy Director General of Epidemiological Surveillance, made a brief presentation on the importance of surveillance in the elimination of measles and rubella by emphasizing the experience of the United Mexican States. Subsequently, Dr. Alberto Díaz, InDRE Deputy Director General, commented on the importance of the laboratory in the elimination of measles and rubella, highlighting the experience of Mexico's laboratory network and InDRE's role as the national reference laboratory.

Dr. Tamara Mancero, on behalf of Dr. Philippe Lamy, PAHO/WHO Representative in Mexico, presented a summary of the progress of measles and rubella elimination in the Region, commenting on the impact of vaccination, the elimination of the endemic transmission of measles and rubella viruses, and the risk of importation of these viruses to countries of the Region. Finally, Dr. Jesús Felipe González, Mexico's Director General of Epidemiology, highlighted the importance of the country's commitment to vaccination, enhanced surveillance and the response of public health laboratories. He then encouraged workshop participants from 10 countries (Argentina, Chile, Colombia, Cuba, El Salvador, Honduras, Mexico, Nicaragua, Uruguay and Venezuela) to implement these assays in their national laboratories and to strengthen the regional capacity to respond to the risk of virus importations. At the end of the meeting, PAHO recognized the contributions of the United States Centers for Disease Control and Prevention (CDC) and InDRE to the success of this event and the effort of the national laboratories to maintain the elimination of measles and rubella in the Region of the Americas. ■

Main Recommendations

1. The laboratory surveillance of measles and rubella is still based on the detection of specific IgM antibodies. To improve the sensitivity of serological diagnosis in specimens collected during the first two days of rash, an adequate specimen for viral detection or virus isolation can be useful to increase the certainty of the diagnosis. This process is recommended for cases with a high suspicion of infection, after considering the clinical and epidemiological data.
2. To maintain the national measles, rubella, and congenital rubella syndrome (CRS) elimination goals, laboratories should emphasize some of the recommendations made during the Atlanta meeting in 2011, i.e.:
   - » Laboratories should use the updated 2012 PAHO Laboratory Guidelines and the registry for sporadic cases (Appendix #3 of the Lab Guidelines) and for guidance on determining the need for additional testing.
   - » National Laboratories should seek advice from Regional Reference Laboratories (RRLs) and the Global Specialized Laboratory (GSL) on case classification, when necessary. In agreement with these laboratories and PAHO, appropriate data and specimens should be submitted to the RRLs or other network laboratories for additional testing. This should include confirmation of positive IgM results when necessary, and additional testing, such as avidity, real time PCR, sequencing (Appendix #1 and #2 of the Lab Guidelines).
3. Laboratories should be aware of all relevant information needed for case classification, and not only the results of laboratory testing. This includes the timing of the use of various diagnostic tests and the effectiveness of these tests in specific situations (e.g. Positive Predictive Value - PPV). Laboratories should bring this type of information to discussions with epidemiology teams, regarding the classification of cases.
4. Laboratory and epidemiological staff should meet at least once a month to reconcile data, identify data omissions and decide on any further necessary specimen collection and additional testing for the classification of cases, using all available clinical, epidemiological and laboratory data. During this meeting, the team should review the performance of the surveillance system indicators, which are reported in the PAHO measles and rubella weekly surveillance bulletin.
5. National and sub-national laboratories should work closely with field staff to improve the collection of specimens for the virological detection of measles or rubella. The goal is to obtain viral genotype information for at least 80% of the chains of transmission.
6. Laboratories should achieve and maintain the level of technical expertise necessary for maintaining the capacity for laboratory surveillance and monitoring the elimination of measles, rubella, and CRS. This expertise should include the implementation of the new molecular test for the viral detection of measles and rubella in order to help in the confirmation of cases.
7. National laboratories should perform real time RT-PCR for measles and rubella to improve their ability to classify cases, especially when the serologic testing is inconclusive.
8. National laboratories should be capable of performing the genotyping RT-PCR assays for measles and rubella. Laboratories with sequencing capacity should sequence the PCR products and report the sequence information within 2 months. Laboratories without sequencing capacity should forward the PCR products to the designated sequencing laboratory.
9. Laboratories should submit measles sequence information to MeaNS and rubella genotype information to PAHO/WHO within 2 months of receiving the sample. Laboratories without sequencing capacity should give permission so that the laboratory performing the sequencing can submit the sequences on their behalf, or be willing to submit their sequences, to the required databases in a timely manner.
10. All laboratories that participated in the workshop should complete the tests of the FTA practice panels for measles and rubella, and send the results to the CDC and PAHO within the two months following the conclusion of the workshop.
11. Laboratories should develop internal quality control measures for molecular testing that include: maintaining an appropriate directional workflow; using Standard Operating Procedures (SOPs); using validated standard assays and control RNAs; monitoring RT-PCR assay performance; and producing high-quality sequence data.
12. Laboratories are strongly encouraged to use the standard PCR controls and standardized kits provided by the CDC for molecular testing and viral isolation confirmation.
13. All national laboratories should establish a user account in MeaNS and be familiarized with the use of this database for monitoring the modes of transmission of measles virus.

Newsbriefs

Colombia Introduces HPV Vaccine into National Immunization Schedule

In August 2012, Colombia's Ministry of Health and Social Welfare introduced the human papillomavirus (HPV) vaccine into its national immunization schedule in order to significantly reduce the incidence of cervical cancer. Following an analysis of the current evidence available and a cost-effectiveness study of HPV vaccines, the MoH's National Immunization Technical Advisory Group (NITAG), along with the Colombian Federation of Obstetrics and Gynecology, the Colombian Society of Pediatrics, the Colombian Federation of Perinatology, the National Institute of Health and the National Institute of Oncology, agreed to recommend including the HPV vaccine in its national immunization schedule.

The introduction of the vaccine will occur in two phases. The first phase took place in August 2012, for girls in public and private schools, who are in fourth grade and are nine years of age or older at the time of vaccination. The second phase will begin in February 2013, for girls not attending school in urban and rural areas (populated and difficult access areas). The planning should take into account the demographic, geographic and cultural needs of each locality to implement strategies that guarantee compliance with the three-dose schedule.

The integrated approach to the use of the HPV vaccine (primary prevention), in addition to screenings for early detection of preneoplastic and neoplastic lesions of the cervix (secondary prevention), will significantly reduce the incidence of cervical cancer in Colombia, in the coming decades.

The Dominican Republic Introduces Rotavirus Vaccine into National Immunization Schedule

On 4 July 2012, the Dominican Republic introduced the rotavirus vaccine into its national immunization schedule in order to prevent diarrhea in children and avoid mortality. The introduction of the vaccine was announced at the official launch in the Santo Socorro hospital. The first doses were administered by the Minister of Health, Dr. Bautista Rojas Gomez and the Regional Director of the Pan American Health Organization (PAHO), Mirta Roses to two children aged two months.

According to Dr Rojas Gomez, the new vaccine will prevent the diarrheal infection that affects virtually all children in the first five years of life. The Minister explained that the administration of this oral vaccine in all vaccination posts in the country will also reduce pediatric visits and congestion in hospitals. Dr Rojas Gomez also stated that with the addition of the Dominican Republic, more and more countries in Latin America include this vaccine in their immunization programs, which he assured is a great achievement.

WHO Recommendations for Interrupted and Delayed Vaccination Now Available

Every immunization program in the world has a national vaccination schedule that specifies the age at which antigens are to be given. But as we well know, in real life things rarely go according to plan! Inevitably, children and individuals come late for their vaccinations or for whatever reason, are unable to stick to the usual schedule. These irregular situations can be challenging to health workers who may not know what to do. If a child starts a vaccination series late, how many doses should be given? If a vaccination series is interrupted, does it need to be restarted or can it simply be resumed without repeating the last dose? The Global Immunization Vision & Strategy 2006-2015 aims to protect more people by expanding beyond the traditional immunization target group. This includes those who may be "off schedule". Regardless of when children and individuals come in contact with immunization services, it is important that their immunization status be checked and that they are provided with the vaccines they need or have missed. To help guide national programs, WHO has consolidated its recommendations for interrupted and delayed vaccination into one summary table.

The recommendations are available at:
http://www.who.int/immunization/policy/immunization_tables/en/index.html

Guatemala Celebrates the World Hepatitis Day

For the second consecutive year, Guatemala joined the celebration of the World Hepatitis Day in July 2012. As established in Resolution WHA63.18, during the 63rd World Health Assembly, the country implemented strategies aimed at educating the population and creating awareness about viral hepatitis as a public health problem in order to promote the implementation of prevention and control measures.

To that end, the following activities were conducted: 1) airing of an in-formative radio interview at "Today with the United Nations" in official radio TGW 107.3 FM; 2) publication of an informative article in a widely distributed free newspaper reaching over 600,000 people in the metropolitan area of Guatemala City and another one in the Healthy Living section of the *Prensa Libre* Newspaper, which is the paper with the largest circulation in the country; 3) dissemination of hepatitis information through the Ministry of Health Website and Newsletters; 4) vaccination of University San Carlos de Guatemala third year medical students, prior to the beginning of their clinical rotations; and 5) vaccination coverage assessment of the Hepatitis B birth-dose within 24 hours of birth among newborns done jointly by the Ministry of Health's Immunization Program and the Social Security Administration.

The birth dose of Hepatitis B vaccine was included in Guatemala's National Immunization Program in 2010; for infants, Hepatitis B vaccine has been used in a pentavalent vaccine since 2005.

PAHO/WHO-Guatemala will continue working with the country to coordinate efforts to prevent viral hepatitis through improving sanitation and access to clean water and non-contaminated food, as well as increasing coverage with Hepatitis B vaccine, particularly among newborns and targeted risk-groups.

El Salvador Enacts Vaccine Law

Trajectory of the Expanded Program on Immunization in El Salvador

The Expanded Program on Immunization (EPI) of the Region of the Americas was formally established in 1977, through a Resolution of the Directing Council of the Pan American Health Organization (PAHO). Under the EPI Resolution (CD25.R27), PAHO Member States pledged to work with PAHO to formulate long-term plans to strengthen immunization activities and authorized the development of practical guidelines to establish national immunization programs (among other activities). Although in El Salvador immunization activities were being conducted since the beginning of the 20th century, El Salvador's national EPI was formally established in 1986.

In 1985, with the support of international organizations (PAHO/WHO, the United States Agency for International Development, Rotary International, UNICEF and others), vaccination campaigns were initiated to increase vaccination coverage[1]. In those days, measles, polio, diphtheria, neonatal and adult tetanus were among the 10 leading causes of morbi-mortality in the epidemiological profile of the country. In 1987, PAHO approved a plan of action in which El Salvador would finance 80% of EPI costs [2]. That same year, El Salvador's EPI conducted three vaccination campaigns (between February and April) [3]. The following years, the campaigns continued and granted major successes to El Salvador's EPI.

In 1990, during the "Sixth Central American Meeting to Evaluate the Progress of the EPI...", El Salvador was one of four countries with OPV3 coverage (≥80%) in municipalities among the eight participating countries [4]. As a result of its progress, El Salvador, along with other countries of the Americas, was certified as polio-free in 1994.

In 1995, the Ministry of Health together with the Ministry of Education, created and launched the Healthy Schools Program. Its aim was to provide large scale preventative care to schoolchildren, with emphasis on vaccination, dental and ophthalmological programs, and environmental sanitation, in order to avoid dropouts and to improve school performance. That same year, financed by the government of Spain, the National Center of Biologicals was established and equipped to guarantee the optimal conservation and timely distribution of vaccines. A Preventative Health program was also implemented. It covers, free of charge, all children aged <12 years and women of childbearing age.

In 2000, the health modernization process was continued by redefining Health System functions in order to form the Basic Comprehensive Health System (SIBASI, its initials in Spanish). The Basic Comprehensive Health System aims to achieve active community participation (social participation) and to decentralize health services. In 2001, the country was hit by two earthquakes, which occurred on the 13th of January and February. In spite of these terrible acts of nature that caused serious damage to the health infrastructure, the follow-up campaign for the elimination of measles, targeting children aged <5 years, took place during the month of February.

In 2004, a specific agreement for vaccines and immunization was prepared and signed between the Ministry of Health and the Salvadorian Social Security Institute to strengthen the availability of immunization supplies.

In 2009, PAHO conducted an international evaluation of the Expanded Program on Immunization (EPI) in El Salvador. The general objective of this evaluation was "to determine the capacity and needs of El Salvador's National Program for Vaccines and Immunization, to respond to the challenges of disease control, elimination and eradication, to transition from a children's vaccination program to a family program, and to sustainably introduce new vaccines." [5] As a result of this evaluation, a technical report with pertinent observations and recommendations was developed as well as a 2010-2014 Multi-year Plan of Action to implement the recommendations and to strengthen El Salvador's EPI. One of the several recommendations of the evaluation, and part of the Multi-year Plan was, "to promote legislation to ensure the sustainability of the Program" and to encourage the approval of a vaccine law project that had been ongoing since 2002.

Vaccine Law

In 2002, following a recommendation of PAHO's Technical Advisory Group on Vaccine-preventable Diseases (TAG), El Salvador conducted an analysis of the national EPI and realized that the Program did not have its own budget to purchase vaccines. In addition, it found itself in need of requesting additional budget to pay the Value Added Tax (VAT) and to ensure that vaccination was universal and equitable.

For the aforementioned reasons, the Salvadorian Association of Infectious Diseases and the Pediatric Association of El Salvador, in collaboration with the EPI and with the technical support of PAHO/WHO and UNICEF, prepared a first draft of a Vaccine Law.

Between 2006 and 2012, the draft of the vaccine law was sent to the Legislative Assembly on three occasions. In the first two, the draft was presented by the National Immunization Technical Advisory Group and in the last by the Infectious Diseases and Pediatric Associations of El Salvador. The Salvadorian Association of Infectious Diseases and the Pediatric Association of El Salvador are considered in the country as the champions of this law.

The working group that prepared the draft that became law included members of the Salvadorian Association of Infectious Diseases, the Pediatric Association of El Salvador, the Ministry of Health and members of the Health Commission of the Assembly. This draft was accepted by the Health Commission of the Legislative Assembly and a bill proposed. Finally, the Vaccine Law was enacted through Legislative Decree N° 1013, on29 February 2012, and it was published in the Official Journal N° 58, volume 394, on 23 March 2012. Law No. 1013, or the Vaccine Law, establishes and develops on the provision of health services including vaccinating the population through the National Health System. The Law is intended to facilitate vaccine procurement, storage, distribution, supply, prescription and administration to the population through the National Health System in order to reduce, control, eliminate or eradicate vaccine-preventable diseases. In addition, this law aims to do so through the free and mandatory provision of the vaccination schedule during normal times, disasters or health emergencies.

1 "El Salvador accelerates EPI". EPI Newsletter. 1985; Vol. VII, No. 2 (p. 1).

2 "Eleven Plans of Action Approved". EPI Newsletter. 1987; Vol. IX, No. 3 (p. 4).

3 "National Vaccination Campaigns Carried Out and Planned for 1987". EPI Newsletter. 1987; Vol. IX, No. 3 (p. 8).

4 "Progress in Central America". EPI Newsletter. 1990; Vol. XII, No. 6 (p. 2).

5 "Evaluación Internacional: Situación de Vacunas e Inmunizaciones en El Salvador". Pan American Health Organization. 2009.

The Vaccine Law also expects to strengthen vaccine procurement through PAHO's Revolving Fund for Vaccine Procurement, establish a budget item for the procurement of vaccines and syringes, and exempt the EPI of the VAT. Additionally, this law strengthens the advisory function of the National Immunization Technical Advisory Group (NITAG) and alerts about potential conflicts of interests on the part of its members. Finally, the Law protects promotion and education actions as well as the use of a unified information system. The new vaccine law is in compliance with additional criteria as listed in table 1.

Very little time has passed since this law was enacted to measure its impact. However, its regulations are currently being developed and among other provisions, it plans to incorporate physicians from the private health sector in activities related to vaccination and the epidemiological surveillance of vaccine-preventable diseases. ■

Table 1. Criteria met by El Salvador's vaccine law.

Declarative Criteria		Article
Vaccination free of cost	Forces the government to provide free and universal vaccination to all of its citizens. It defines vaccination as a Public Good, guaranteed to all by the State	Article 5
Mandatory Vaccination	Dictates the mandatory nature of vaccination for all citizens	Articles 4 and 17
Financial Criteria		**Article**
Budget Line	Requires the existence of a budget line in the national budget for the procurement of vaccines and to finance the immunization program	Article 21
Tax and Fee Exemptions	Guarantees that the importation of vaccines, immunization supplies and cold chain equipment is free from taxes and fees	Article 24
Supply and Procurement Mechanisms	Identifies specific purchasing and procurement procedures (i.e., PAHO's Revolving Fund) in order to guarantee a supply of safe, efficient and reliable vaccines and immunization supplies	Article 22
Operational Criteria		**Article**
Regulation	Establishes standards and regulations for the vaccination program aimed at guaranteeing that only safe and effective vaccines are used	Article 11 *
Immunization Schedule	Requires that a national vaccination schedule be defined	Article 4
Enforceability	Establishes sanctions for breach of provisions contained in the law (fines, restricted access to schools or job functions, etc.)	Articles 26 and 27
Existence of a National Immunization Technical Advisory Group	Legal establishment of a National Immunization Technical Advisory Group	Article 7

Source: Trumbo et al. Journal of Public Health Policy [in publication].

* within the functions of the National Immunization Technical Advisory Group

El Salvador Swears in their National Immunization Technical Advisory Group (NITAG).

On 12 July 2012, El Salvador's Minister of Health, Dr María Isabel Rodríguez, swore in the newly composed and legally chartered NITAG. The El Salvadorian NITAG, which is called "Comité Asesor de Prácticas de Inmunizaciones (CAPI)", will also be bound by a regulatory guide. This regulatory document expands upon Chapter III of the Vaccine Law, which broadly outlines the purpose, composition, terms, and modus operandi of a NITAG, providing clear operational guidelines. Some key aspects outlined in the Vaccine Law and the NITAG regulations include: The NITAG will be composed of representatives from various government and public health agencies; Members are to serve for three-year terms and may only be re-elected once; NITAG members are required to disclose potential conflicts of interest and excuse themselves from voting on recommendations for which they have a real or perceived conflict of interest.

These accomplishments exemplify how the El Salvadorian NIP is taking steps to strengthen the existing program and to ensure its sustainability in the future. ■

CAPI members are sworn in by the Minister.

Measles/Rubella/Congenital Rubella Syndrome Surveillance Data Final Classification, 2011

Country	Total Measles/ Rubella Suspect Cases Notified	Confirmed Measles			Confirmed Rubella			Congenital Rubella Syndrome	
		Clinical	Laboratory	Total	Clinical	Laboratory	Total	Suspected	Confirmed
Anguilla	6	0	0	0	0	0	0	0	0
Antigua & Barbuda	0	0	0	0	0	0	0	0	0
Argentina	367	0	3	3	0	1	1	54	0
Aruba	…	0	0	0	0	0	0	…	0
Bahamas	1	0	0	0	0	0	0	0	0
Barbados	5	0	0	0	0	0	0	0	0
Belize	84	0	0	0	0	0	0	0	0
Bermuda	0	0	0	0	0	0	0	0	0
Bolivia	264	0	0	0	0	0	0	22	0
Brazil	8979	0	43	43	0	0	0	78	0
Canada	…	0	803	803	0	2	2	…	1
Cayman Islands	1	0	0	0	0	0	0	0	0
Chile	493	0	6	6	0	1	1	91	0
Colombia	3803	0	6	6	0	1	1	277	0
Costa Rica	35	0	0	0	0	0	0	0	0
Cuba	1144	0	0	0	0	0	0	0	0
Curaçao	…	0	0	0	0	0	0	…	0
Dominica	0	0	0	0	0	0	0	0	0
Dominican Republic	134	0	2	2	0	0	0	0	0
Ecuador *	2369	0	260	260	0	0	0	0	0
El Salvador	540	0	0	0	0	0	0	46	0
French Guiana	21	0	5	5	0	0	0	…	…
Grenada	1	0	0	0	0	0	0	0	0
Guadeloupe	21	0	13	13	0	0	0	…	…
Guatemala	283	0	0	0	0	0	0	0	0
Guyana	81	0	0	0	0	0	0	0	0
Haiti	35	0	0	0	0	0	0	0	0
Honduras	86	0	0	0	0	0	0	41	0
Jamaica	264	0	1	1	0	0	0	0	0
Martinique	10	0	3	3	0	0	0	…	…
Mexico	7594	0	3	3	0	0	0	0	0
Montserrat	0	0	0	0	0	0	0	0	0
Nicaragua	186	0	0	0	0	0	0	0	0
Panama	263	0	4	4	0	0	0	0	0
Paraguay	607	0	0	0	0	0	0	0	0
Peru	1023	0	0	0	0	0	0	0	0
Puerto Rico	…	0	0	0	0	0	0	…	0
St. Kitts & Nevis	1	0	0	0	0	0	0	0	0
St. Lucia	1	0	0	0	0	0	0	0	0
St. Vincent & Grenadines	1	0	0	0	0	0	0	0	0
Sint Maarten	…	0	0	0	0	0	0	…	0
Suriname	29	0	0	0	0	0	0	0	0
Trinidad & Tobago	14	0	0	0	0	0	0	0	0
Turks & Caicos	1	0	0	0	0	0	0	0	0
United States	…	0	220	220	0	4	4	…	0
Uruguay	56	0	0	0	0	0	0	0	0
Venezuela	807	0	0	0	0	0	0	0	0
Virgin Islands (UK)	0	0	0	0	0	0	0	0	0
Virgin Islands (US)	…	…	…	…	…	…	…	…	…
TOTAL	29610	0	1372	1372	0	9	9	609	1

*Measles data for Ecuador are still preliminary.

The *Immunization Newsletter* is published every two months, in English, Spanish, and French by the Comprehensive Family Immunization Project of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization (WHO). The purpose of the *Immunization Newsletter* is to facilitate the exchange of ideas and information concerning immunization programs in the Region, in order to promote greater knowledge of the problems faced and possible solutions to those problems.

An electronic compilation of the *Newsletter*, "Thirty years of *Immunization Newsletter:* the History of the EPI in the Americas", is now available at: www.paho.org/inb.

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Dr. Cláudio Marcos da Silveira: In Memoriam

Dr. Cláudio Marcos da Silveira, a Brazilian epidemiologist who played an important role in the implementation of immunization programs in the Americas, passed away on 28 August 2012 after losing a battle with cancer. He was 76.

Dr. Silveira graduated in medicine from the Federal University of Health Sciences of Porto Alegre in 1967, and completed his residency in psychiatry at St. Peter's Hospital. Soon after, he became interested in epidemiology and after completing graduate work in public health at the University of São Paulo; he served as a medical epidemiologist in the Epidemiological Control Unit at the Department of Health and Environment of the State of Rio Grande do Sul, between 1969 and 1975. From 1975 to 1978, he directed the Biological Research Institute, and was part of the group that advocated for polio vaccination and epidemiological surveillance in Brazil. During this period, Dr. Silveira also served as a consultant for the Pan American Health Organization (PAHO) and the World Health Organization (WHO) in Bangladesh, Latin America and Somalia for the Smallpox Eradication Program. During the 1980s, he received his Master's degree in Biological Sciences, worked on the Malaria Control Program in the Amazon, and was municipal secretary for Health and Human Services in his native city of Porto Alegre.

In the late 1980's, he joined the Expanded Immunization (EPI) team at the Pan American Health Organization Headquarters in Washington, DC. During his years working at PAHO headquarters he collaborated in the development and implementation of several immunization strategies that resulted in the regional control and elimination of various vaccine-preventable diseases, notably the regional elimination of polio and measles, and was one of the main architects of the strategy that eliminated neonatal tetanus as a public health problem in most countries of the Americas.

After retiring from PAHO in 1998, he continued to collaborate as a consultant for PAHO, assisting Latin American and Caribbean countries in the preparation of the Action Plan for the laboratory containment of poliovirus and conducting a review of mumps data in Latin America and the Caribbean in order to determine the clinical safety of different mumps vaccines, among other tasks. His most recent activities as a PAHO consultant included participating in evaluations of Immunization Program of Latin American countries.

Dr. Silveira also loved his country and enjoyed his return to work and live there until his death. Because of his strong technical and scientific background, couple with his kindness, easy smile and dedicated work, his absence is already notorious for those who worked with him, but also for the public health community as well. He will be sorely missed. ■